Re-treatment of bednets in Tanzania

Our experience of re-treatment of bednets in Tanzania is quite different from that of Armstrong Schellenberg et al. (2002: Transactions, 96, 368–369). In contrast to their disappointingly low rates of net re-treatment with socially marketed nets, our experience is quite different. We consider the fact that two teams like ours would be needed to carry out net replacement per million people. This sounds like a lot of money, but it could easily be afforded out of net replacements for torn nets could be achieved at a ‘mass effect’ on the village vector population (Curtis et al., 1998: Tropical Medicine and International Health, 3, 619–631), but is also a more cost-effective use for donor funding than subsidizing a slow-moving marketing system. Omitting urban areas, where there is already a market in nets against Culex mosquitoes, and considering only all the highly malarious rural areas of tropical Africa, replacements for torn nets could be provided once every 4 years, plus annual re-treatment, for about US$450 million per year, based on the costing per 1000 people of Curtis et al. (loc. cit.) and the fact that two teams like ours would be needed to carry out net replacement per million people. This sounds like a lot of money, but it could easily be afforded based on the figures presented at a recent meeting of the Society of Vector Ecology by M. K. Rust (University of California, USA), it is about half what is spent annually on insecticides for cat flea control in the USA.

We found that our team of 10 could, in 1 d, check the number and size of nets required in each house in a village and donate the required 800 nets. We consider that this kind of organized free provision is not only more efficient in ensuring high enough coverage to achieve a ‘mass effect’ on the village population (Curtis et al., 1998: Tropical Medicine and International Health, 3, 619–631), but is also a more cost-effective use for donor funding than subsidizing a slow-moving marketing system. Omitting urban areas, where there is already a market in nets against Culex mosquitoes, and considering only all the highly malarious rural areas of tropical Africa, replacements for torn nets could be provided once every 4 years, plus annual re-treatment, for about US$450 million per year, based on the costing per 1000 people of Curtis et al. (loc. cit.) and the fact that two teams like ours would be needed to carry out net replacement per million people. This sounds like a lot of money, but it could easily be afforded based on the figures presented at a recent meeting of the Society of Vector Ecology by M. K. Rust (University of California, USA), it is about half what is spent annually on insecticides for cat flea control in the USA.

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Re-treatment of bednets in Tanzania: a reply

Maxwell et al. (above) present their experience of the re-treatment of mosquito nets, which differs from that presented in our paper (Armstrong Schellenberg et al., 2002: Transactions, 96, 368–369). Their re-treatment adds substantially to the health impact of mosquito nets. It doubles the epidemiological impact associated with net use under trial conditions (Lengeler, 2000: Insecticide-treated bednets and curtains for prevention of malaria transmission. Thesis and dissertation, Issue 1, 2001. Oxford: Update Software), and there is increasing evidence that treated nets have prolonged impact (T. A. Smith, personal communication). Adding insecticide to netting is therefore highly cost-effective (Goodmann et al., 1999: Lancet, 354, 378–385).

The crucial question of how to deliver net treatment reliably to millions of users every 6–12 months is a highly challenging issue. To date, all programmes have been limited in scale and most have been relatively unsuccessful in achieving high re-treatment rates. Undoubtedly, much more experience is required. While we welcome the suggestion by Maxwell et al. (above) of free delivery of insecticide as an attractive option, we do not agree that their experience can be taken as a basis for advocating such an approach on a larger scale. Providing insecticide in a small number of villages with a long-standing research presence and having it delivered by a team of well-trained, highly motivated field-workers is unlikely to be a good model on which to plan for upsaling. The world of public health is full of examples of how excellent pilot interventions failed to be successfully upscaled. In the context of a country such as Tanzania it is hard to imagine how an army of publicly funded net treatment agents could be successfully deployed, given the logistical and financial constraints. On the other hand, creating synergies with other key interventions in the public health arena is essential.

We found that our team of 10 could, in 1 d, check the number and size of nets required in each house in a village and donate the required 800 nets. We consider that this kind of organized free provision is not only more efficient in ensuring high enough coverage to achieve a ‘mass effect’ on the village population (Curtis et al., 1998: Tropical Medicine and International Health, 3, 619–631), but is also a more cost-effective use for donor funding than subsidizing a slow-moving marketing system. Omitting urban areas, where there is already a market in nets against Culex mosquitoes, and considering only all the highly malarious rural areas of tropical Africa, replacements for torn nets could be provided once every 4 years, plus annual re-treatment, for about US$450 million per year, based on the costing per 1000 people of Curtis et al. (loc. cit.) and the fact that two teams like ours would be needed to carry out net replacement per million people. This sounds like a lot of money, but it could easily be afforded based on the figures presented at a recent meeting of the Society of Vector Ecology by M. K. Rust (University of California, USA), it is about half what is spent annually on insecticides for cat flea control in the USA.

Mechanisms involved in myocardial necrosis and pulmonary oedema after Tityus serrulatus scorpion envenomation

We read with interest the report by Benvenuti et al. (2002: Transactions, 96, 275–276) on myocardial necrosis and pulmonary oedema after Tityus serrulatus scorpion envenomation. The authors proposed that the myocardial necrosis was probably induced by sympathetic storm following the envenomation and stated ‘there is no evidence for a direct toxic effect of scorpion venom on the myocardium’. They also mentioned some experimental evidence for the direct action of T. serrulatus scorpion venom on the cardiac muscle (Teixeira Jr et al., 2001: Toxicon, 39, 703–709). Furthermore, we agree that ‘the sympathetic storm alone cannot explain all the clinical manifestations and haemodynamic disarrangement that culminates in pulmonary oedema’ after envenomation. Indeed, there is much evidence that inflammatory mediators, such as platelet activation...